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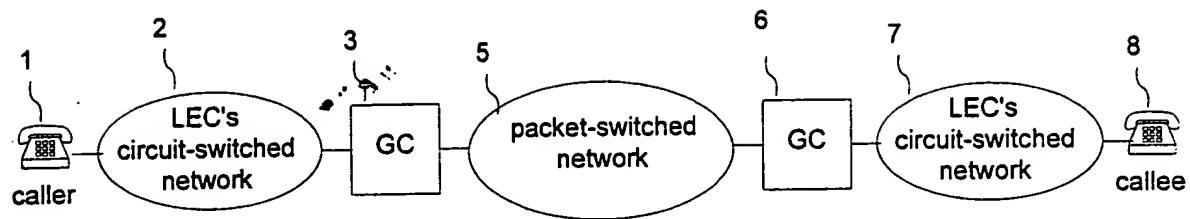


Fig. 1

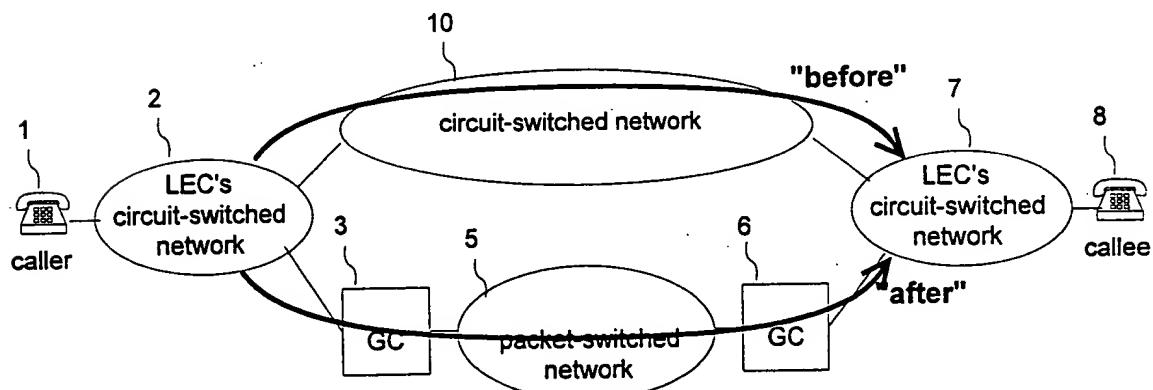


Fig. 2

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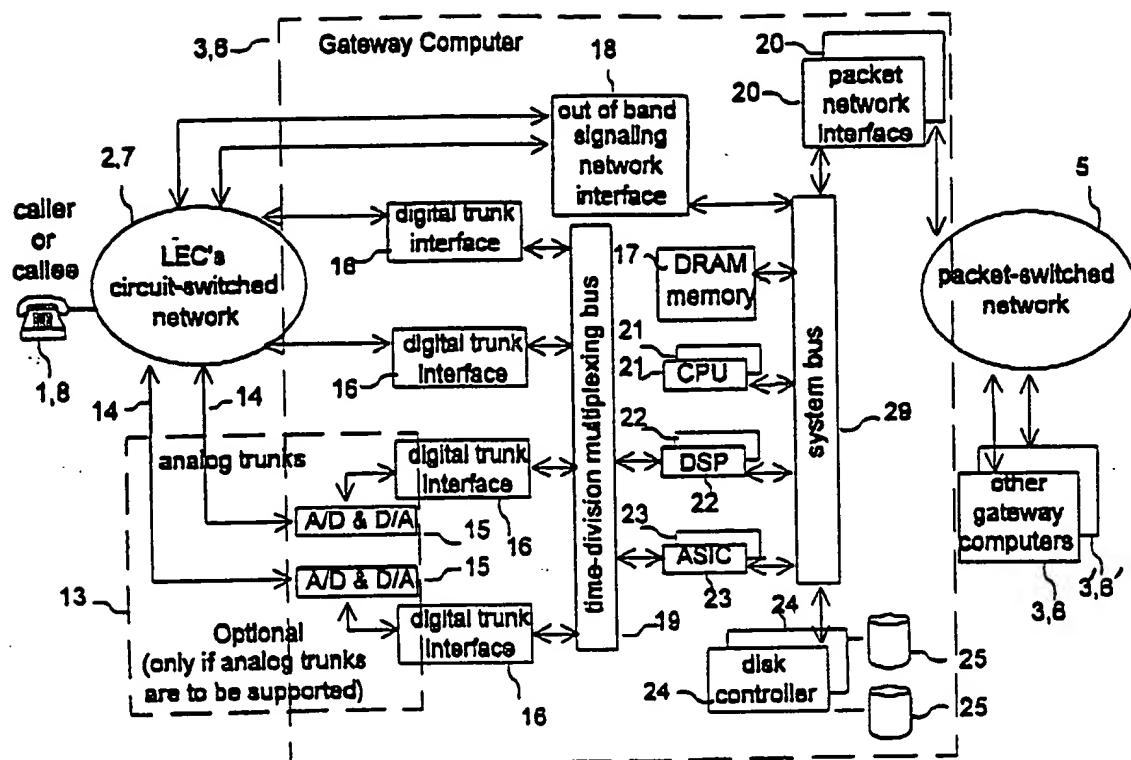


Fig. 3a

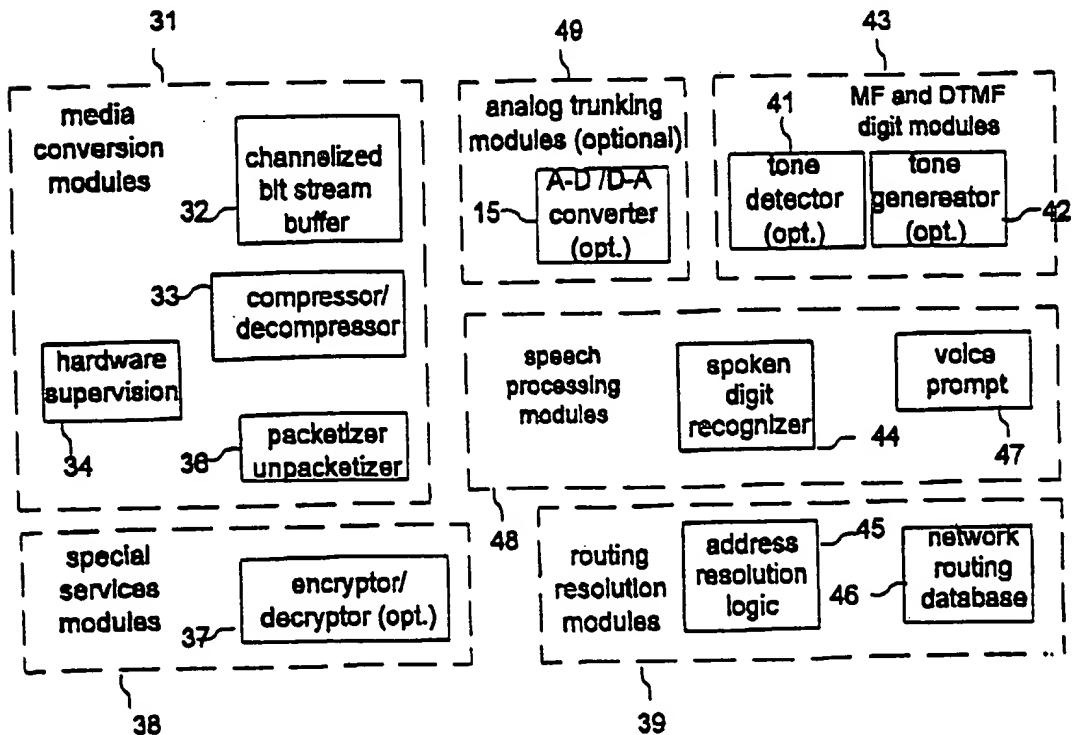


Fig. 3b

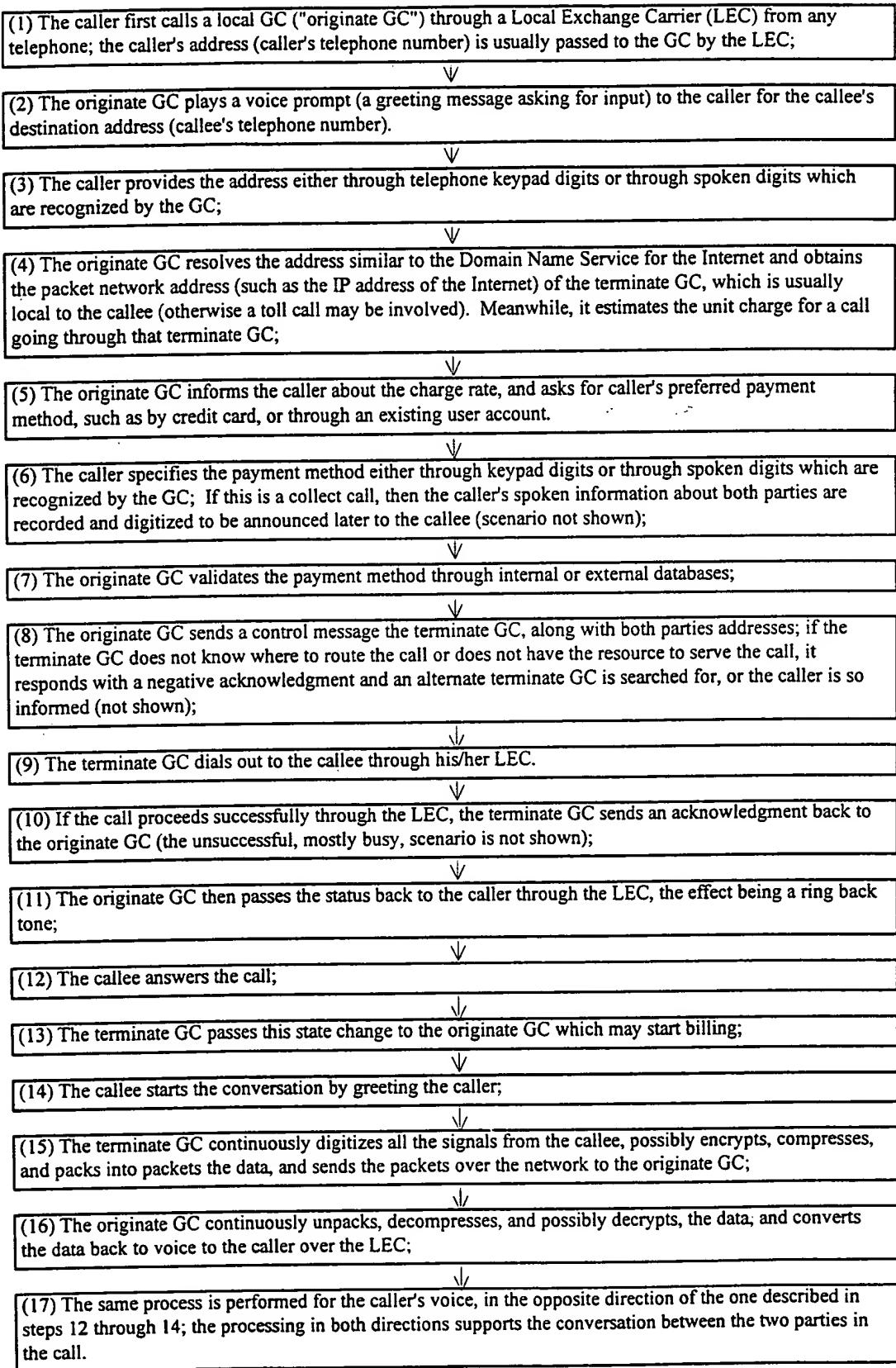


Fig. 5

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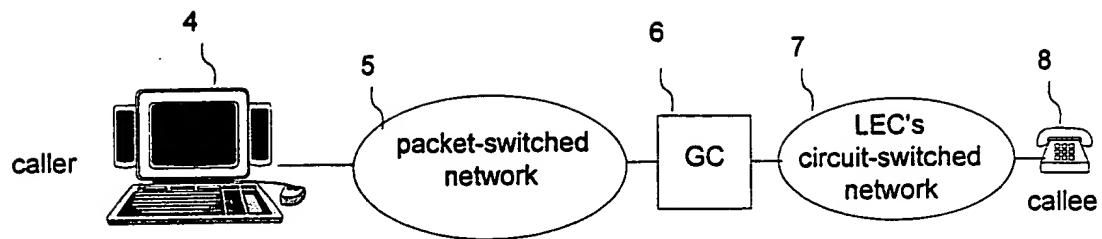


Fig. 4

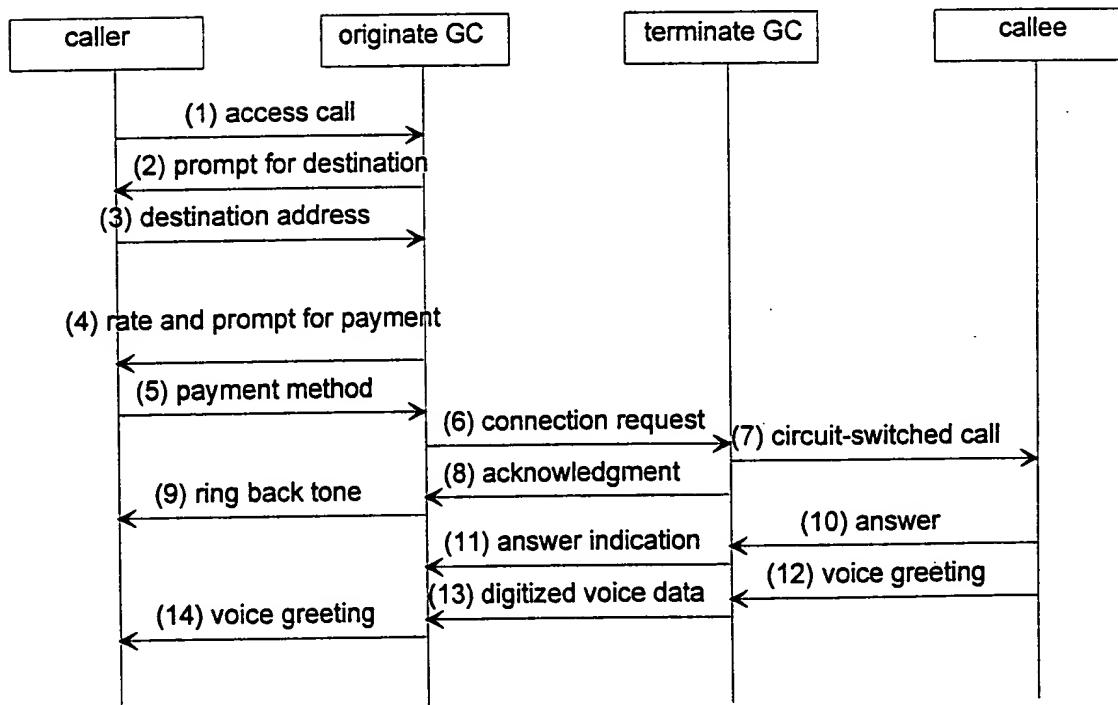


Fig. 6

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- (1) The caller makes a long-distance call by dialing a destination address (callee's telephone number) through a Local Exchange Carrier (LEC) from his/her dedicated telephone such as home phone or office phone for which a routing configuration to a Gateway Computer (GC) is preset with the LEC. The LEC routes the call to the GC. The caller's address (caller's telephone number) is usually passed to the GC by the LEC along with the destination address.
- ↓
- (2) The originate GC authorizes the call by checking the caller's account information through internal databases; It also resolves the routing using the dialed destination address.
- ↓
- (3) The originate GC then sends a control message to the terminate GC, along with both parties addresses; if the terminate GC does not know where to route the call or does not have the resource to serve the call, it responds with a negative acknowledgment and an alternate terminate GC is searched for, or the caller is so informed.
- ↓
- (4) The terminate GC dials out to the callee through his/her LEC.
- ↓
- (5) If the call proceeds successfully through the LEC, the terminate GC sends an acknowledgment back to the originate GC (the unsuccessful, mostly busy, scenario is not shown);
- ↓
- (6) The originate GC then passes the status back to the caller through the LEC, the effect being a ring back tone;
- ↓
- (7) The callee answers the call;
- ↓
- (8) The terminate GC passes this state change to the originate GC which may start billing;
- ↓
- (9) The callee starts the conversation by greeting the caller;
- ↓
- (10) The terminate GC continuously digitizes all the signals from the callee, possibly encrypts, compresses, and packs into packets the data, and sends the packets over the network to the originate GC;
- ↓
- (11) The originate GC continuously unpacks, decompresses, and possibly decrypts, the data, and converts the data back to voice to the caller over the LEC;
- ↓
- (12) The same process is performed for the caller's voice, in the opposite direction of the one described in steps 9 through 11; the processing in both directions supports the conversation between the two parties in the call.

Fig. 7